



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,737	08/28/2003	Hisayuki Kato	67161-088	5698

7590 08/31/2005

McDermott, Will & Emery
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

PRENTY, MARK V

ART UNIT	PAPER NUMBER
----------	--------------

2822

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,737

Applicant(s)

KATO, HISAYUKI

Examiner

MARK PRENTY

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,8,9,12,13 and 17-28 is/are pending in the application.
- 4a) Of the above claim(s) 17-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6,7,27 and 28 is/are allowed.
- 6) ☒ Claim(s) 9,12,13 and 26 is/are rejected.
- 7) ☒ Claim(s) 9,12,13 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2822

This Office Action is in response to the amendment filed on August 18, 2005.

Claims 17-25 are withdrawn from consideration as being directed to a non-elected invention.

Claim 26 is objected to because "the copper metal" lacks antecedent basis. Correction is required. Claims 9, 12 and 13 depend on claim 26 and are thus similarly objected to.

Claims 26, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent 6,175,145 to Lee et al. (Lee), already of record.

With respect to independent claim 26, Lee discloses (see the entire reference, including the Figs. 3-5 disclosure, for example) a semiconductor device formed on a substrate 1, comprising: an interconnection line 30 formed on the substrate and provided to structure a prescribed circuit; and a fuse 50 incorporated into said interconnection line, said fuse and a connection portion of said interconnection line electrically connected to the fuse (i.e., the "inner" portions of interconnection line 30 described at column 3, lines 50-54) being formed of different metals (i.e., copper and aluminum, respectively – see column 3, lines 40-46, and column 4, lines 42-44), wherein said fuse is formed of [the] copper metal formed in a damascene process and planarized by a CMP (Chemical Mechanical Polishing) process (see column 4, lines 18-38).

Claim 26 is thus rejected under 35 U.S.C. 102(b) as being anticipated by Lee.

Art Unit: 2822

With respect to dependent claim 12, an oxidation speed of the (copper) metal forming Lee's fuse 50 is faster than an oxidation speed of the (aluminum) metal forming the connection portion of Lee's interconnection line 30.

Claim 12 is thus rejected under 35 U.S.C. 102(b) as being anticipated by Lee.

With respect to dependent claim 13, Lee's fuse 50 is formed of a copper metal (again, see column 3, lines 40-46), and the connection portion of Lee's interconnection line 30 is formed of an aluminum metal (again, see column 4, lines 42-44).

Claim 13 is thus rejected under 35 U.S.C. 102(b) as being anticipated by Lee.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,175,145 to Lee et al. (Lee, already of record) together with United States Patent 6,271,574 to Delpech et al. (Delpech), already of record.

Claim 9 depends on independent claim 26. The explanation of the above rejection of independent claim 26 under 35 U.S.C. 102(b) as being anticipated by Lee is hereby incorporated by reference into this rejection of dependent claim 9 under 35 U.S.C. 103(a) as being unpatentable over Lee together with Delpech.

The difference between claim 9 and Lee is claim 9's fuse is formed from at least two portions different in width.

Delpech teaches that forming a fuse from at least two portions different in width increases its efficiency (see the entire patent, particularly the Fig. 3 disclosure).

It would have been obvious to one skilled in this art to form Lee's fuse from at least two portions different in width in order to increase its efficiency as taught by Delpech.

Art Unit: 2822

Claim 9 is thus rejected under 35 U.S.C. 103(a) as being unpatentable over Lee together with Delpech.

Claims 6, 7, 27 and 28 are allowable over the prior art of record.

Registered practitioners can telephone the examiner at (571) 272-1843. Any voicemail message left for the examiner must include the name and registration number of the registered practitioner calling, and the Application/Control (Serial) Number. Technology Center 2800's general telephone number is (571) 272-2800.


Mark V. Prenty
Primary Examiner